D

ATTACHMENT D

Supporting Engineering Statement
of Neil Smith, Dated June 14, 2001

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of KNOXVILLE CHANNEL 25, L.L.C., applicant for a new analog television station to operate on Channel 26 in Knoxville, Tennessee, in support of its Petition for Rulemaking to change operation to Channel 7 and operate digitally. This change is required because Channel 26 has been allotted for digital use in Knoxville.

The reference coordinates for this proposed allotment are 36° 00' 35.9", 83° 55' 56.5", which describe an existing tower from which the Channel 7 facility would operate. We have conducted an interference analysis with respect to DTV allotments using the V-Soft Communications "Probe" computer program, which has been found generally to mimic the FCC's interference program. The results of the study are included as Exhibit A and show an absence of objectionable interference. This study assumed facilities of 100 kw, directional, at 367 meters. Exhibit B is a copy of Pages 18 and 19 of FCC Form 301 providing the technical specifications of the facility, and Exhibit C provides full data on the specified antenna system.

We have studied the RF transmissions of this facility with regard to their environmental effect. Employing the methods set forth in *OST Bulletin No. 65* and considering the vertical pattern of the proposed antenna, we calculate maximum power density two meters above ground from the proposed facility to be 0.00050 mw/cm^2 at

locations 160 meters southwest of the base of the tower. This is but 0.25 percent of the 0.20 mw/cm^2 reference at this frequency for uncontrolled areas. Since the proposed contribution to the ambient power density level will be less than five percent of the reference, and since the applicant will take whatever corrective steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive nonionizing radiation, a grant of an application for the proposed facility would clearly be a minor environmental action.

It should be noted that there is now pending before the Commission a proposal by Knoxville Channel 25, L.L.C. for an analog facility to operate on Channel 25 in Knoxville. That facility would provide Grade B service to 931,082 persons. The instant alternative proposal for Channel 7, digital, would have 1,354,181 persons within the digital service contour.

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

NEIL M. SMITH

June 14, 2001

EXHIBIT A

DE MINIMIS INTERFERENCE ANALYSIS

PROPOSED DIGITAL TELEVISION STATION
CHANNEL 7 - KNOXVILLE, TENNESSEE

NTSC FACILITIES

				Interference Losses (Population)								
Call	City of License	Ch.	Grade B Population F(50,50)	NTSC Only	NTSC & DTV Without Prop. Ch. 7	Unmasked DTV	%[1]	NTSC & DTV With Prop. Ch. 7	Unmasked DTV	%[1]	Prop. Ch. 7 Contribution	%[2]
WCIQ	Mount Cheaha, AL	7	2,570,512	225,549	228,443	2,894	0.1	268,825	43,276	1.7	40,382	1.6
WSPA-TV (Lic.)	Spartanburg, SC	7	2,884,912	151,405	154,627	3,222	0.1	155,749	4,344	0.2	1,122	< 0.1
WSPA-TV (CP)	Spartanburg, SC	7	2,912,122	171,373	171,563	190	< 0.1	172,651	1,278	< 0.1	1,088	< 0.1

DTV FACILITIES

				Interference Losses (Population)								
Call	City of License	Ch.	NTSC/DTV Grade B Pop. Longley-Rice	NTSC Only	NTSC & DTV Without Prop. Ch. 7	Unmasked DTV	%	NTSC & DTV With Prop. Ch. 7	Unmasked DTV	%	Prop. Ch. 7 Contribution	%
WLJC-DT (CP)	Beattyville, KY	7	676,538	93,066	93,066	0	0	94,802	1,736	0.3	1,736	0.3
WLJC-DT (Appl.)	Beattyville, KY	7	781,632	111,988	111,988	0	0	115,062	3,074	0.4	3,074	0.4
WLJC-DT (Allot.)	Beattyville, KY	7	416,369	23,178	23,178	0	0	26,240	3,062	0.7	3,062	0.7

[1] Cannot exceed 10%, under FCC *de minimis* interference standards.
[2] Cannot exceed 2%, under FCC *de minimis* interference standards.

SECTION III-D DTV Engineering

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel Number: DTV 7 Analog TV, if any --

2. Zone: ☐ I ☒ II ☐ III

3. Antenna Location Coordinates: (NAD 27)

36 ° 00 ' 36 " ☒ N ☐ S Latitude

83 ° 55 ' 57 " ☐ E ☒ W Longitude

4. Antenna Structure Registration Number: 1043696

☐ Not applicable ☐ FAA Notification Filed with FAA

5. Antenna Location Site Elevation Above Mean Sea Level: 678 meters

6. Overall Tower Height Above Ground Level: 332 meters

7. Height of Radiation Center Above Ground Level: 294 meters

8. Height of Radiation Center Above Average Terrain: 367 meters

9. Maximum Effective Radiated Power (average power): 100 kW

10. Antenna Specifications:

a.

Manufacturer	Model
Andrew	ATW9V3-HSS-7S

b. Electrical Beam Tilt: 0.75 degrees ☐ Not Applicable

c. Mechanical Beam Tilt: - degrees toward azimuth - degrees True ☒ Not Applicable

Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). Exhibit No. C

d. Polorization: ☒ Horizontal ☐ Circular ☐ Elliptical

EXHIBIT B-1

PROPOSED DIGITAL FACILITY

CHANNEL 7 - KNOXVILLE, TENNESSEE

SMITH AND FISHER

TECH BOX

e. Directional Antenna Relative Field Values: ☐ Not applicable (Nondirectional)

Rotation: _____ ° ☒ No rotation

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	0.433	60	0.463	120	0.622	180	0.965	240	0.981	300	0.691
10	0.470	70	0.426	130	0.707	190	0.984	250	0.961	310	0.605
20	0.503	80	0.405	140	0.784	200	0.995	260	0.931	320	0.521
30	0.521	90	0.416	150	0.848	210	1.000	270	0.890	330	0.451
40	0.519	100	0.463	160	0.899	220	0.999	280	0.837	340	0.410
50	0.498	110	0.537	170	0.937	230	0.993	290	0.770	350	0.407
Additional Azimuths											

If a directional antenna is proposed, the requirements of 47 C.F.R. Section 73.625(c) must be satisfied. **Exhibit required.** Exhibit No. C

11. Does the proposed facility satisfy the interference protection provisions of 47 C.F.R. Section 73.623(a)? (Applicable only if **Certification Checklist** Items 1(a), (b), or (c) are answered "No.") ☒ Yes ☐ No

If "No," attach as an Exhibit justification therefor, including a summary of any related previously granted waivers. Exhibit No. —

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefor. (Applicable only if **Certification Checklist** Item 3 is answered "No.") Exhibit No. —

13. **Environmental Protection Act. Submit in an Exhibit** the following: Exhibit No.

a. If **Certification Checklist** Item 3 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.

By checking "Yes" to **Cettification Checklist** Item 3, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

If **Certification Checklist** Item 3 is answered "No," an Environmental Assessment as required by 47 C.F.R. Section 1.1311.

Proposal is believed to comply with pertinent provisions of §1.1305, §1.1306, and §1.1307 of FCC Rules *[see also Engineering Statement]*.

PREPARER'S CERTIFICATION IN SECTION III MUST BE COMPLETED AND SIGNED.

EXHIBIT B-2

PROPOSED DIGITAL FACILITY

CHANNEL 7 - KNOXVILLE, TENNESSEE

SMITH AND FISHER

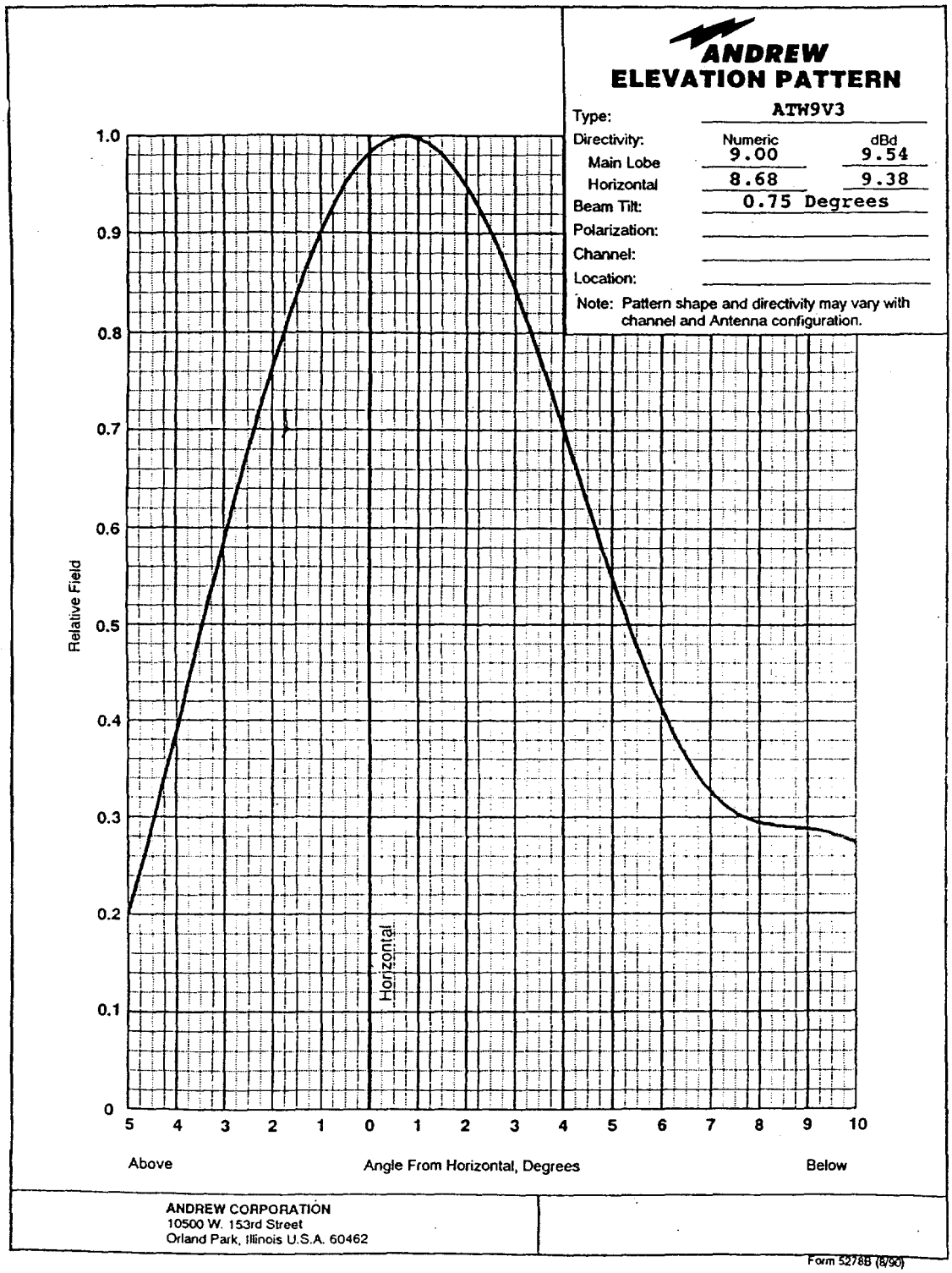


EXHIBIT C-1

VERTICAL RELATIVE FIELD PATTERN

PROPOSED DIGITAL FACILITY
CHANNEL 7 - KNOXVILLE, TENNESSEE

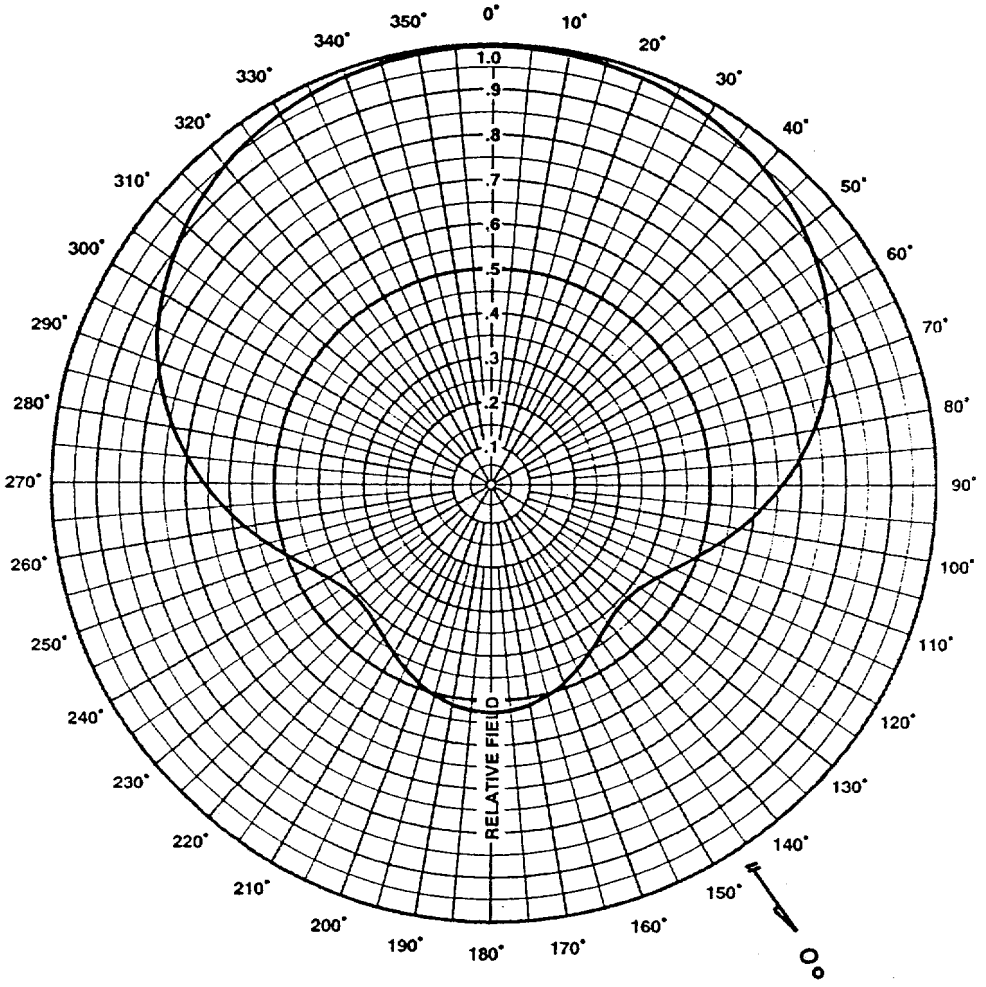
SMITH AND FISHER

ANDREW

AZIMUTH PATTERN

Type:	ATW-VHFS	
	Numeric	dB
Directivity:	1.90	2.79
Peak(s) At:		
Polarization:		
Channel:		
Location:		

Note: Pattern shape and directivity may vary with channel and mounting configuration.



ANDREW CORPORATION
10500 W. 153rd Street,
Orland Park, Illinois U.S.A. 60462

Form 5279B (8/90)

EXHIBIT C-2

HORIZONTAL RELATIVE FIELD PATTERN

PROPOSED DIGITAL FACILITY
CHANNEL 7 - KNOXVILLE, TENNESSEE

SMITH AND FISHER

EXHIBIT C-3

MAIN LOBE
DIRECTIONAL ANTENNA PATTERN DATA

PROPOSED DIGITAL TELEVISION STATION
CHANNEL 7 - KNOXVILLE, TENNESSEE

Azimuth (° T)	Relative Field	ERP (dbk)	Azimuth (° T)	Relative Field	ERP (dbk)
0	0.433	12.7	180	0.965	19.7
10	0.470	13.4	190	0.984	19.9
20	0.503	14.0	200	0.995	20.0
30	0.521	14.3	210	1.000	20.0
40	0.519	14.3	220	0.999	20.0
50	0.498	13.9	230	0.993	19.9
60	0.463	13.3	240	0.981	19.8
70	0.426	12.6	250	0.961	19.7
80	0.405	12.1	260	0.931	19.4
90	0.416	12.4	270	0.890	18.9
100	0.463	13.3	280	0.837	18.5
110	0.537	14.6	290	0.770	17.7
120	0.622	15.9	300	0.691	16.8
130	0.707	17.0	310	0.605	15.6
140	0.784	17.9	320	0.521	14.3
150	0.848	18.6	330	0.451	13.1
160	0.899	19.1	340	0.410	12.3
170	0.937	19.4	350	0.407	12.2

E

ATTACHMENT E

Memorandum of Agreement, Dated May 22, 2001, Between Holston Valley Broadcasting Corporation and Knoxville Channel 25, L.L.C.

MEMORANDUM OF AGREEMENT

Holston Valley Broadcasting Corporation ("Holston") the licensee of Station WKTP-LP, operating on Channel 7 at Gate City/Weber City, VA and Knoxville Channel 25, LLC ("KC25"), the petitioner before the Federal Communications Commission ("FCC") for the alternative allocation of DTV Channel 7 to Knoxville, TN, (hereinafter sometimes referred to collectively as the "Parties") hereby enter into this Memorandum of Agreement ("Agreement"), as of May 22, 2001, respecting their mutual purpose to resolve in the public interest the potential conflict between Holston's operation of WKTP-LP and KC25's alternative proposal ultimately to operate a full service television station on DTV channel 7 at Knoxville.

In exchange for mutual consideration, hereby acknowledged, the Parties agree as follows:

Holston agrees to accept such interference as the proposed KC25 operation on DTV Channel 7 at Knoxville, TN may cause to the operation of WKTP-LP at Gate City/Weber City, VA.

KC25 agrees to accept such interference as the WKTP-LP operation at Gate City/Weber City, VA may cause to its alternatively proposed operation on DTV Channel 7 at Knoxville, TN. KC25 further agrees not to oppose before the FCC such application, if any, as Holston may subsequently file to increase the operating power of WKTP-LP (up to a maximum of .03 kilowatt [30 watts] transmitter output power) and agrees to accept such additional interference, if any, as such proposal may cause to its alternatively proposed operation on DTV Channel 7 at Knoxville, TN.

In furtherance of this Agreement, the Parties have fully analyzed the respective interference potential of the operations in question in the context of the public interest ramifications and have independently and jointly concluded that such operations would not be inimical to such interests. In part, that conclusion and this Agreement are premised upon the underlying analysis and opinion of competent technical counsel which in relevant part demonstrates that such interference would be minimal in terms of affected areas and populations. A report reflecting that circumstance is attached to and made a part of this Agreement.

The Parties acknowledge that WKTP-LP's prior application to the FCC to be deemed eligible to apply for Class A status was denied by the FCC and that WKTP-LP has filed and there remains pending a petition for reconsideration of that determination. The Parties nonetheless further agree in that respect that this Agreement will obtain and control concerning their respective rights and obligations without reference to such action as the FCC ultimately takes concerning the WKTP-LP petition for reconsideration.

This Agreement may be executed in counterparts, all of which together shall constitute one and the same instrument.

AGREED: HOLSTON VALLEY BROADCASTING Corporation

By: George E. Stanley, Jr. - President

AGREED: KNOXVILLE CHANNEL 25, L.L.C.

By: _____

In furtherance of this Agreement, the Parties have fully analyzed the respective interference potential of the operations in question in the context of the public interest ramifications and have independently and jointly concluded that such operations would not be inimical to such interests. In part, that conclusion and this Agreement are premised upon the underlying analysis and opinion of competent technical counsel which in relevant part demonstrates that such interference would be minimal in terms of affected areas and populations. A report reflecting that circumstance is attached to and made a part of this Agreement.

The Parties acknowledge that WKTP-LP's prior application to the FCC to be deemed eligible to apply for Class A status was denied by the FCC and that WKTP-LP has filed and there remains pending a petition for reconsideration of that determination. The Parties nonetheless further agree in that respect that this Agreement will obtain and control concerning their respective rights and obligations without reference to such action as the FCC ultimately takes concerning the WKTP-LP petition for reconsideration.

This Agreement may be executed in counterparts, all of which together shall constitute one and the same instrument.

AGREED: HOLSTON VALLEY BROADCASTING C____

By: _____

AGREED: KNOXVILLE CHANNEL 25, L.L.C.

By: _____

F

ATTACHMENT F

Supporting Engineering Statement
of Neil Smith, Dated June 13, 2001

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of KNOXVILLE CHANNEL 25, L.L.C. ("KC25"), in support of its Memorandum of Agreement with Holston Valley Broadcasting Corporation ("Holston"), the licensee of Station WKTP-LP, Channel 7, Gate City, Virginia. KC25 proposes to operate in Knoxville, Tennessee, on Channel 7, digital. Because of the proximity of the two stations, each would cause interference to the other.

Employing Longley-Rice calculations, we find that the WKTP-LP 68 dbμ protected contour includes a population of 27,510, and that the KC25 Channel 7 DTV facility would cause interference to 2,634 of those persons, or 9.6 percent of the total. If WKTP-LP were to triple its ERP, it would provide 68 dbμ service to 51,213 persons, 4,585 of whom (9.0 percent) would receive interference from KC25. However, these figures exaggerate the impact of the interference.

Figure 1 shows the WKTP-LP 68 dbμ contour and the areas of predicted interference, shown as shaded one kilometer squares. We find that the two square kilometer interference area northeast of the transmitter site and the one square kilometer interference area west-southwest of the site have no population. Thus, the entire interference population is in the remaining six square kilometers generally to the south. Figure 2 shows the WKTP-LP 68 dbμ contour plus shaded areas denoting those places in which Grade B service is available from WKPT-TV, the parent station, based on Longley-Rice calculations. A comparison of Figures 1 and 2 reveals that where populated interference areas exist, there is also Grade B service from WKPT-TV. In other words, anyone who loses WKTP-LP service due to interference from the

KC25 Channel 7 facility can receive the same programing from WKPT-TV, so no actual loss will result.

Figures 3 and 4 provide the same information but assume that WKTP-LP has increased power by a factor of three. In Figure 3 the four square kilometer interference area northeast of the transmitter site is uninhabited, meaning that the entire interference population is included in the other interference areas. Figure 4 shows that all of the people who would receive interference from the KC25 facility have Grade B service available from WKPT-TV, so, again, no true loss of service would occur.

The KC25 Channel 7 DTV facility would have a population of 1,354,181 within its digital service contour. WKTP-LP would cause interference to 4,120 persons within this contour, or 0.3 percent of the total. However, only 140 of these persons reside within the Knoxville DMA, in Cocke, Hamblen, and Hancock Counties. If WKTP-LP were to operate with triple its licensed ERP, the total interference population would increase to 6,171, or 0.5 percent of the total. Of these, only 760 reside in the Knoxville DMA, in the counties noted above. These interference effects are clearly negligible.

I declare under penalty of perjury that the foregoing statements are true and correct to the best of my knowledge and belief.

NEIL M. SMITH

June 13, 2001

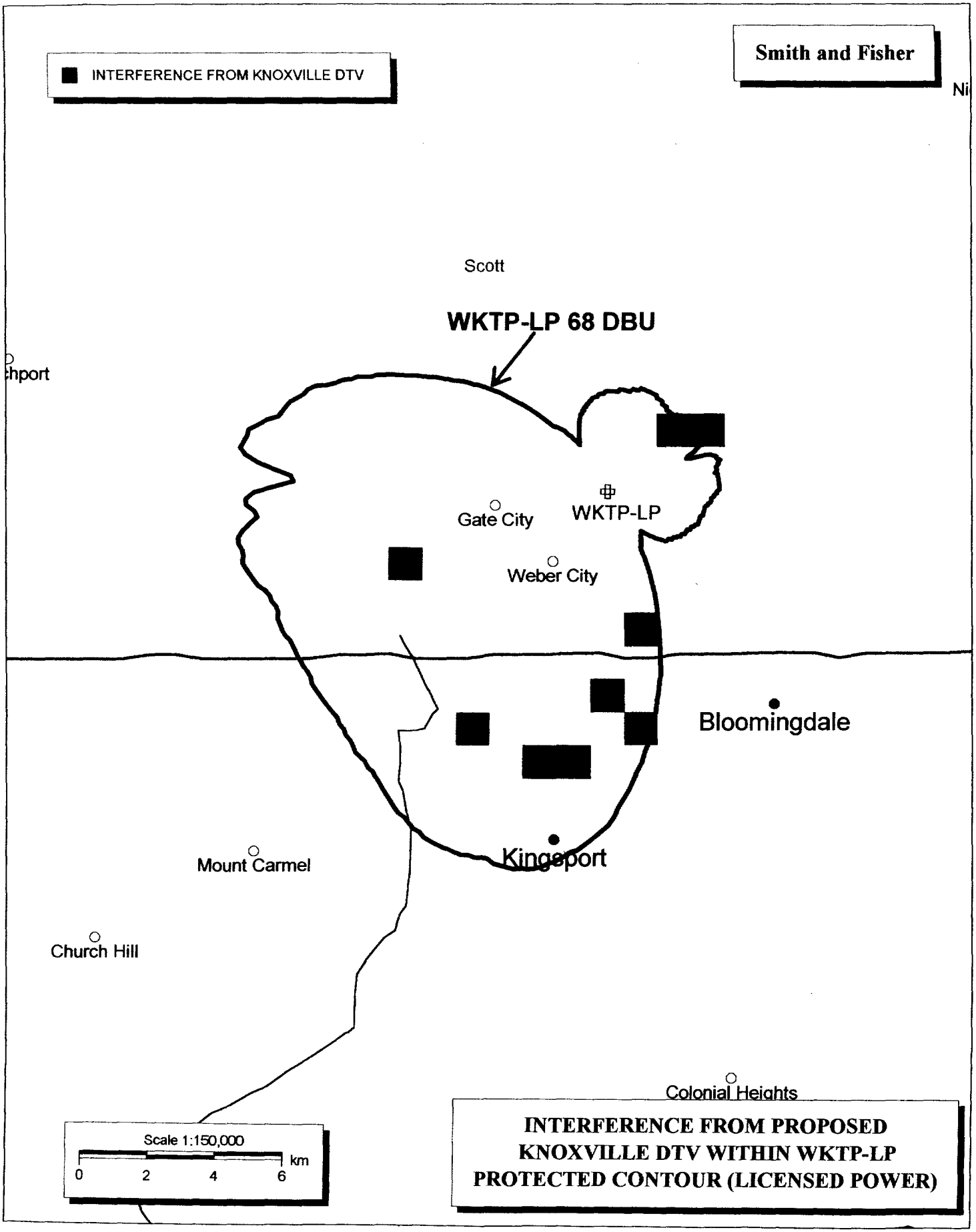

INTERFERENCE FROM KNOXVILLE DTV
Smith and Fisher
Scott
WKTP-LP 68 DBU
Gate City
WKTP-LP
Weber City
Bloomingdale
Kingsport
Mount Carmel
Church Hill
Colonial Heights
Scale 1:150,000
0 2 4 6 km
INTERFERENCE FROM PROPOSED KNOXVILLE DTV WITHIN WKTP-LP PROTECTED CONTOUR (LICENSED POWER)

FIGURE 1

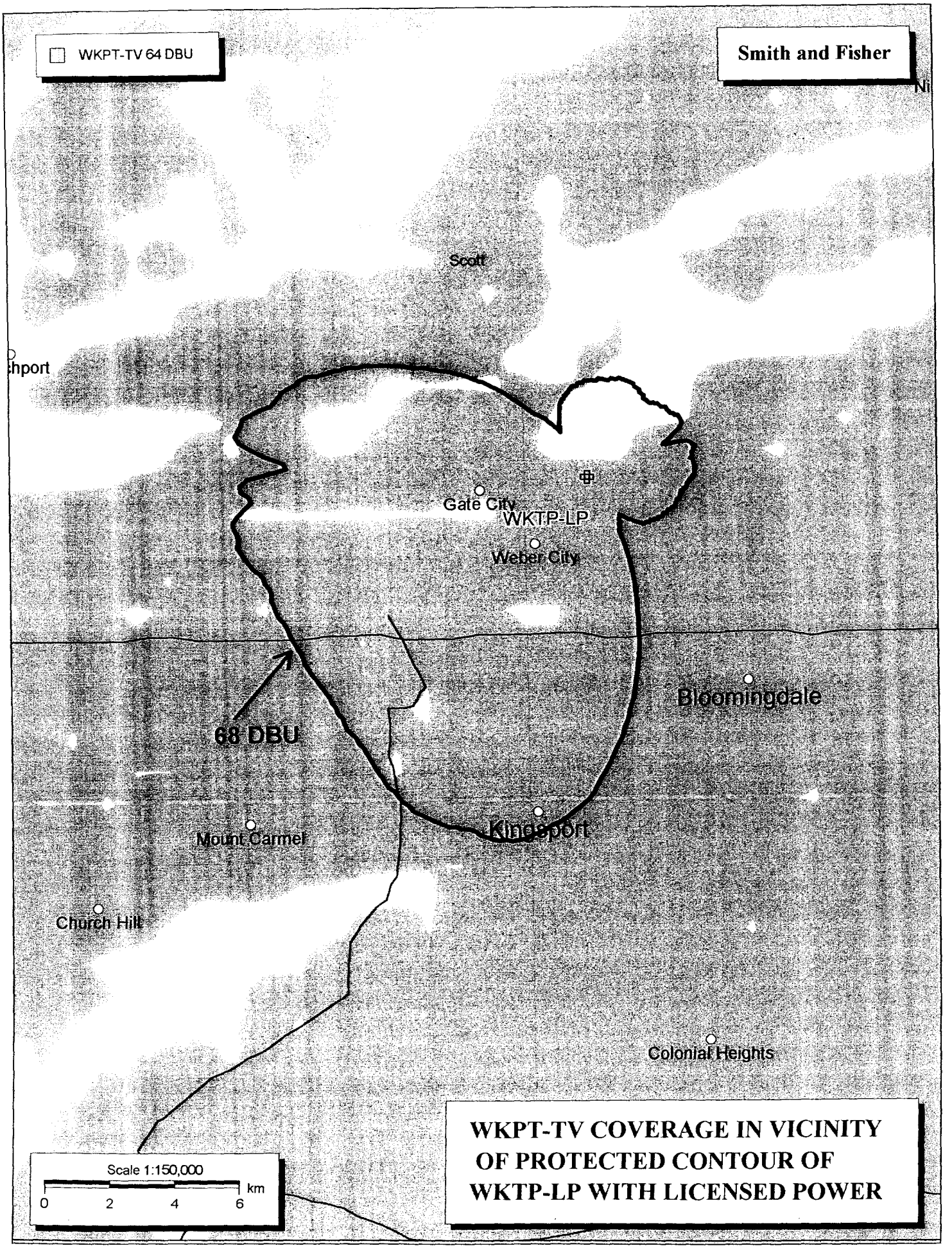

WKPT-TV 64 DBU
Smith and Fisher
Scott
Gate City
WKTP-LP
Weber City
68 DBU
Bloomingdale
Kingsport
Mount Carmel
Church Hill
Colonial Heights
Scale 1:150,000
km
0
2
4
6
WKPT-TV COVERAGE IN VICINITY
OF PROTECTED CONTOUR OF
WKTP-LP WITH LICENSED POWER

FIGURE 2

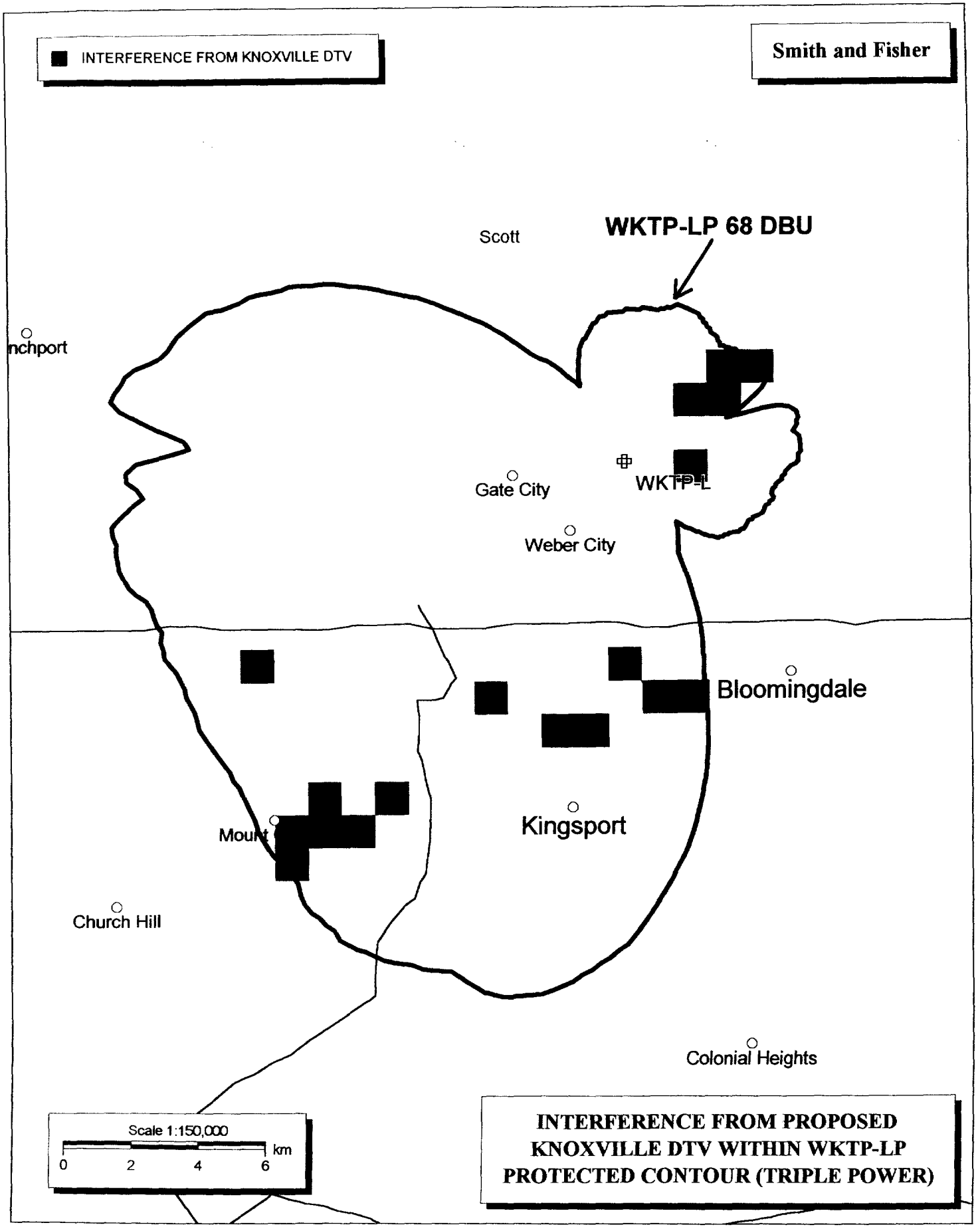

INTERFERENCE FROM KNOXVILLE DTV
Smith and Fisher
WKTP-LP 68 DBU
Scott
nchport
Gate City
WKTP-L
Weber City
Bloomingdale
Kingsport
Church Hill
Colonial Heights
Scale 1:150,000
km
0
2
4
6
INTERFERENCE FROM PROPOSED KNOXVILLE DTV WITHIN WKTP-LP PROTECTED CONTOUR (TRIPLE POWER)

FIGURE 3

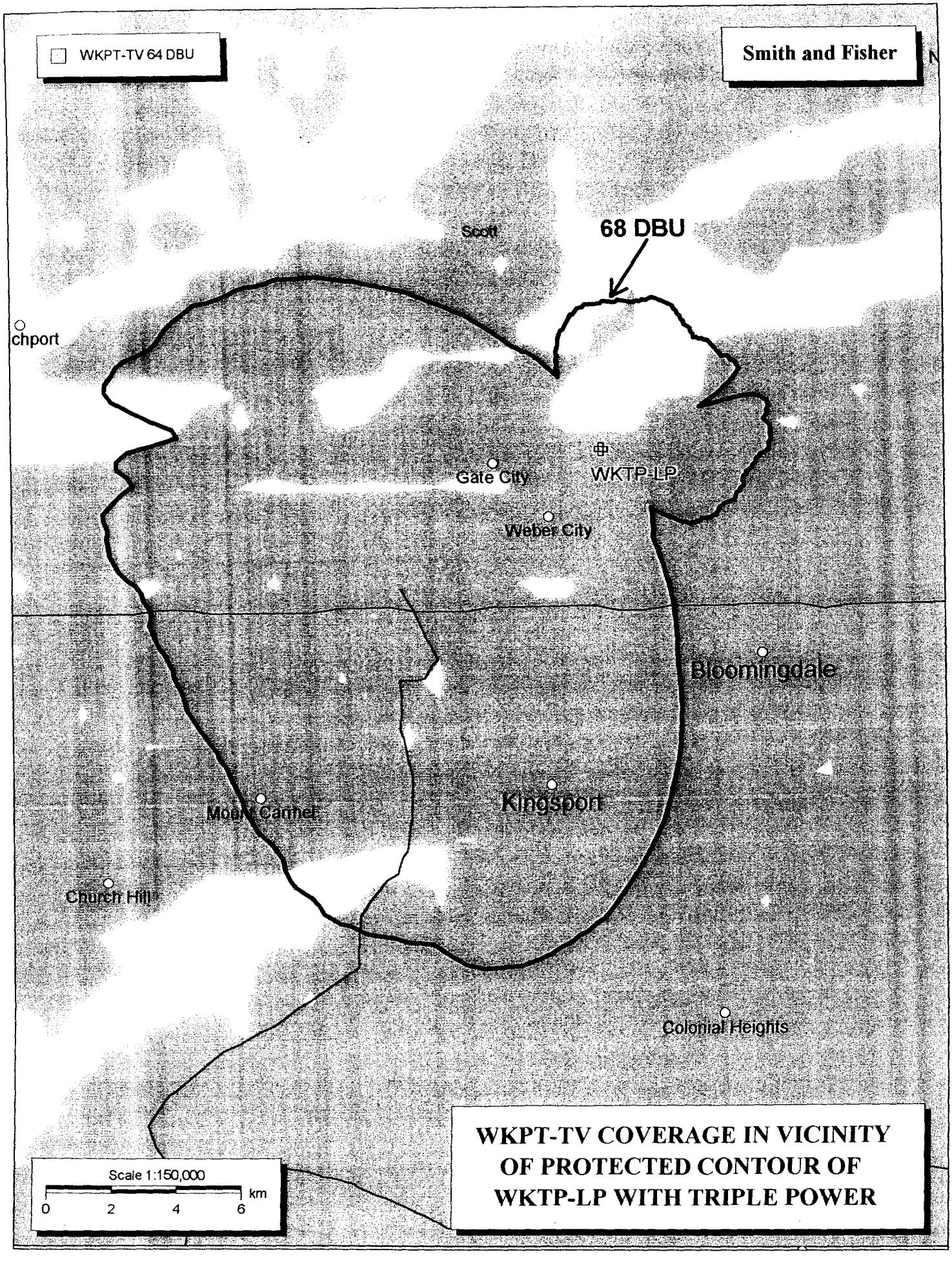

WKPT-TV 64 DBU
Smith and Fisher
68 DBU
Scott
chport
Gate City
WKTP-LP
Weber City
Bloomingdale
Kingsport
Mount Carmel
Church Hill
Colonial Heights
Scale 1:150,000
km
0
2
4
6
WKPT-TV COVERAGE IN VICINITY OF PROTECTED CONTOUR OF WKTP-LP WITH TRIPLE POWER

FIGURE 4

CERTIFICATE OF SERVICE

I hereby certify that on this 20th day of June, 2001, a copy of the foregoing SUPPLEMENT TO PETITION FOR RULEMAKING AND FURTHER ALLOTMENT PROPOSAL was hand delivered to the following:

Mr. Roy J. Stewart
Chief, Mass Media Bureau
Federal Communications Commission
The Portals II, Room 2-C347
445 Twelfth Street, S.W.
Washington, DC 20554

Ms. Barbara Kreisman
Chief, Video Services Division
Mass Media Bureau
Federal Communications Commission
The Portals II, Room 2-A666
445 Twelfth Street, S.W.
Washington, DC 20554

Mr. Clay Pendarvis
Chief, Television Branch
Video Services Division
Mass Media Bureau
Federal Communications Commission
The Portals II, Room 2-A662
445 Twelfth Street, S.W.
Washington, DC 20554

Mr. Gordon Godfrey
Video Services Division
Mass Media Bureau
Federal Communications Commission
The Portals II, Room 2-C120
445 Twelfth Street, S.W.
Washington, DC 20554

Ms. Nazifa Naim
Video Services Division
Mass Media Bureau
Federal Communications Commission
The Portals II, Room 2-C834
445 Twelfth Street, S.W.
Washington, DC 20554

Delphine Davis